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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/630,356	08/01/2000	Masayuki Yamada	36409-00100	7717

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EXAMINER

NOLAN, DANIEL A

ART UNIT

PAPER NUMBER

2655

DATE MAILED: 11/04/2002

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/630,356

Applicant(s)

YAMADA, MASAYUKI

Examiner

Daniel A. Nolan

Art Unit

2655

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 30 September & 21 October, 2002.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-13 and 15-24 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 2 is/are allowed.
- 6) ☒ Claim(s) 1,3,4,6-10,12,13,15,16,18-22 and 24 is/are rejected.
- 7) ☒ Claim(s) 5,11,17 and 23 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 01 August 2000 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892) 4) ☐ Interview Summary (PTO-413) Paper No(s). _____
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948) 5) ☐ Notice of Informal Patent Application (PTO-152)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____ 6) ☐ Other: _____

DETAILED ACTION

1. The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

Note that as of October 1, 2002 a new **Art Unit 2655** was established that includes this application, and that this new AU number should be used in all future correspondence.

Response to Amendment

2. The responses filed 30 September & 21 October, 2002 have been applied to the following effect:
 - The specification was changed as indicated and the objections to the claims are withdrawn as satisfied.
 - The title was changed and the objection withdrawn.
 - The abstract was changed and the objection withdrawn.
 - Claims 14 and 25-48 are cancelled.
 - Claims 1-3, 5, 13, 15 and 17 were changed as indicated and examined on the merits.

Response to Arguments

3. Applicant's arguments filed 30 September 2002 have been fully considered but they are not persuasive.

- The objection to the specification is withdrawn as marginally complying with the MPEP with the observation that the issues remain extant and unresolved, namely that the mere recitation of claims provides neither summary nor antecedent basis for the claims.
- The features added to claim 1 was found in obvious combination in the prior art.
- The newly independent claims does not include the allowable feature that would simultaneously provide support for all of the *mu-law scheme, scalar quantization, and linear predictive coding encoding methods*.

Specification

4. The specification is objected to as failing to provide proper antecedent basis for the claimed subject matter. See 37 CFR 1.75(d)(1) and MPEP § 608.01(o). Correction of the following is required:

- The term "predetermined value" (in claim 2) is not found in the specification.
- The Examiner is proceeding with the understanding that the reference is to the "predetermined *threshold* value" (of line 9 page 13 and lines 13-19 page 18).

Claim Rejections - 35 USC § 103

Gasper et al & Swaminathan et al

5. Claims ~~1, 3-4, 6-10~~, 12-16 and 18-24 are rejected under 35 U.S.C. 103(a) as being unpatentable over Gasper et al in view of Swaminathan et al (U.S. Patent 5,751,903).

6. Regarding claims 1, 3, 7, 13, 15 and 19, Gasper et al addresses the features in *generating speech segment dictionary of selecting an encoding method from a plurality by teaching the necessity of supporting different representations and encoding methods (column 6 lines 30-32) along with the well-known processes of encoding speech and storing in a speech segment dictionary (column 2 line 64-on) relative to claims 1 and 7.*

In further regard to claims 13 and 19, the steps of *selecting a decoding method for a speech segment read out from the speech segment dictionary (column 11 line 50-on) for decoding (column 6 to line 5) while the step of synthesizing speech on the basis of the decoded speech segment* is taught (in column 5 to line 5).

Further regarding claims 1, 7, 13 and 19, Gasper et al does not mention *selecting an encoding method where the encoding distortion is smallest*. Swaminathan et al (column 13) reads on the features of *a calculation step of calculating an encoding distortion produced at said encoding step (lines 21-23) and a selection step of selecting*

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an encoding method of the plurality of encoding methods in which the encoding distortion is smallest (lines 24-25). It would have been obvious to employ the method of Swaminathan et al in the invention of Gaspar et al because Swaminathan et al teaches a person of ordinary skill in the art of speech signal processing at the time of the invention to use the best alternative.

7. Regarding claims 8 and 20; the claims are set forth with the same limits as claims 7 and 19, respectively. It is well-known and would be obvious to a person of ordinary skill in the art of speech signal processing at the time of the invention that *encoding methods would differ in the number of quantization steps* and that a decision process would include consideration of the cost of supporting the method as the number of steps required would indicate.

8. Regarding claims 9 and 21; the claims are set forth with the same limits as claims 7 and 19, respectively. It is well-known and would be obvious to a person of ordinary skill in the art of speech signal processing at the time of the invention that *encoding methods would be expected to differ with regard to their respective quantization code book* as one of the distinguishing features, and that the decision to employ that method would consider the completeness of the codebook as well as the cost of supporting it.

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9. Regarding claims 4, 10, 16 & 22; the claims are set forth with the same limits as claims 1, 7, 13 & 19, respectively. It is well-known and would be obvious to a person of ordinary skill in the art of speech signal processing at the time of the invention that *encoding methods* would be expected to *differ* with regard to their *encoding scheme* by definition, and that the decision to employ that method would consider the robustness of the scheme as well as the expense of supporting it.

10. Regarding claims 6, 12, 18 and 24; the claims are set forth with the same limits as claims 1, 17, 13, and 19, respectively. Gasper et al teaches the well-known practice *that some speech segments are not encoded* (column 6 line 38).

By also recognizing that *the type of the speech segment is a plosive* (column 4 line 34) Gasper et al would have also made it obvious to a person of ordinary skill in the art of speech signal processing at the time of the invention that such would be a determining factor as to whether to forego coding.

Allowable Subject Matter

11. Claim 2 is allowed.

12. Claims 5, 11, 17 & 23 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

13. The following is a statement of reasons for the indication of allowable subject matter:

- Regarding claim 2, While Akamine et al considers distortion against calculated values, the features of *storing the encoded speech segment ... where the encoding distortion produced at a 1st encoding step is less than a predetermined value; and a 2nd encoding step of encoding the speech segment, in a case where the encoding distortion produced at the 1st encoding step is not less than the predetermined value* were neither found to be anticipated nor were they found in obvious combination in the prior art of reference.
- The common feature of claims 5, 11, 17 & 23 is phrased so as to preclude a simple alternative between the methods named in the claim. Consequently, the Examiner is proceeding with the understanding that the claims require:
 - o That the invention has the capability of performing all cited methods, and
 - o That the choice is made to implement one of those available methods is supported at all times by the invention.
- Regarding claims 5, 11, 17 & 23 as understood by the Examiner, where multi-code methods do conventionally support a plurality of encoding schemes, the feature that simultaneously supports the *mu-law scheme, scalar quantization, and linear predictive coding encoding methods* is neither anticipated nor was it found in obvious combination in the prior art of record.

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14. As allowable subject matter has been indicated, applicant's reply must either comply with all formal requirements or specifically traverse each requirement not complied with. See 37 CFR 1.111(b) and MPEP § 707.07(a).

Conclusion

15. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

- Akamine et al (U.S. Patent 5,671,327) discloses selection by minimum distortion (figures 15 & 24) and considers thresholds established relative to error.

16. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of

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the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

17. Any inquiry concerning this communication or earlier communications from the Examiner should be directed to Daniel A. Nolan at telephone (703) 305-1368 whose normal business hours are Mon, Tue, Thu & Fri, from 7 AM to 5 PM.

If attempts to contact the examiner by telephone are unsuccessful, the examiner's supervisor, Doris To, can be reached at (703) 305-4827.

The fax phone number for Technology Center 2600 is (703) 872-9314. Label informal and draft communications as "DRAFT" or "PROPOSED", & designate formal communications as "EXPEDITED PROCEDURE".

Formal response to this action may be faxed according to the above instructions,

or mailed to: Box AF
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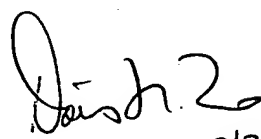
or hand-delivered to: Crystal Park 2,
 2121 Crystal Drive, Arlington, VA,
 Sixth Floor (Receptionist).

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to Technology Center 2600 Customer Service Office at telephone number (703) 306-0377.

Daniel A. Nolan
Examiner
Art Unit 2654

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October 29, 2002


DORIS H. TO 10/30/02
PRIMARY EXAMINER